

FIGURE AMENDMENTS:

Please replace Figs. 1 and 2 with the enclosed replacement sheets thereof. Please add new figures 3, 4, and 5 as enclosed herewith.

Remarks

The Examiner has objected to the drawings as not showing every feature of the invention specified in the claims referring to the spindle rod disposed on the piston of claim 15, the spindle nut driven by the motor of claim 15, the mechanical coupling means in the form of a toothed rack and pinion of claim 18, the rotary coupling of claim 19, the motor disposed within the housing of claim 22 and a regulation and a control unit of claims 23 and 24. In response thereto, the Applicant has amended figure 2 and introduced new figures 3, 4 and 5 which schematically show the claimed features. The specification has been amended to include language essentially corresponding to the above mentioned claims thereby providing support for the figures in the specification. No new matter has been added. Review and acceptance is requested.

Claims 25 through 29 stand rejected under 35 USC 112 second paragraph as being indefinite referring to "high transmission ratio" in claim 25. In response thereto, claim 25 has been cancelled. Claims 26 through 29 are indefinite because they recite a method of operation without setting forth any method steps. In response to these latter rejections of claims 26 to 29, those claims have been amended accordingly. Review and acceptance is requested.

Claims 14 through 17 and 21 through 24 stand rejected under 35 USC 102(b) as being anticipated by Yuda '139. Claims 18 and 20 stand rejected under 35 USC 103(a) as being unpatentable over Yuda '139 in view of Skinner '635. Claim 19 stands rejected under 35 USC 103(a) as being unpatentable over Yuda '139 in view of Henry '433.

The Applicant respectfully disagrees with the anticipation rejection of former independent claim 14 for the following reasons. Independent claim 14, prior to amendment, recited:

"a rotary coupling disposed in said housing and cooperating with said working piston and the pivoting member, wherein an axial motion of said working piston in said cylinder pivots the pivoting member"

as well as the further following feature:

"means for mechanically coupling said working piston to said motor, wherein said motor decelerates and/or drives said working piston in an axial direction".

The claim language therefore clearly recites two separate and distinct elements, each of which cooperates with the working piston. The rotary coupling element cooperates with the piston to effect pivoting of a pivoting member, whereas the mechanical coupling means cooperates between the working piston and the electromotor, thereby allowing the motor to decelerate and/or drive the working piston in an axial direction. In rejecting claim 14 under the anticipation rejection of Yuda, the Examiner has associated the rotary coupling element quoted above with reference symbol C of the Yuda reference. The Examiner has associated the mechanical coupling means with reference symbols 10a and 20a of Yuda. However, reference symbols C, 10a and 20a do not constitute separate elements as required by the claim language recited above. On the contrary, reference symbols 10a and 20a are simply part of the rotary coupling mechanism C. In fact, the rotary coupling mechanism of Yuda does not read on the rotary coupling element of claim 14 prior to amendment, rather on the mechanical coupling means, since elements C, 10a and 20a of Yuda couple the electromotor to the working piston and do not provide for a rotary coupling between the working piston and a pivoting member. The Applicant therefore submits that former claim 14 was not anticipated by the Yuda disclosure.

Nevertheless, in order to facilitate compact prosecution of the instant application, the Applicant has amended claim 14 to more clearly specify the separate and distinct nature of the rotary coupling and mechanical means recitations. In particular, the rotary coupling element has been amended to stipulate that the working piston induces rotation of the rotary coupling and causes pivoting of the pivoting member. Moreover the mechanical coupling means have been further restricted by adding the limitations of former claim 20, wherein the mechanical coupling means are not self-locking.

The Examiner has rejected former claim 20 under 35 USC 103(a) as being unpatentable over Yuda '139 in view of Skinner '635. The Applicant respectfully disagrees with this rejection for the following reasons.

Although it is true that Skinner proposes a coupling mechanism between a rack and pinion which can be fashioned to be non-self-locking, it would not be obvious to use this mechanism of Skinner in the Yuda invention, since that modification of Yuda would prevent Yuda from functioning for an important intended purpose. The Yuda system does not induce rotary coupling to a pivoting member rather is a pneumatically powered linear actuator and induces linear motion only. Yuda emphasizes that the coupling between the motor and the piston must be self-locking in order to prevent the load from back-driving the cylinder in case of power loss (see Yuda column 2 lines 6 through 10). Yuda repeats several times throughout his specification that the coupling mechanism between the motor and the piston is self-locking (see for example Yuda column 4 lines 33 through 35 and lines 63 through 65).

One of average skill in the art, aware of the Yuda and Skinner references would not be motivated to replace the self-locking mechanism of Yuda with the rack and pinion non-self-locking mechanism of Skinner since, in so doing, a load would back drive the cylinder in case of power loss to

the electric motor which is contrary to the object of the Yuda invention and therefore contrary to the object thereof.

The avoidance of a self-locking mechanism in accordance with the invention leads to an increased life time of the pivoting unit, since pressure related vibrations are thereby avoided or reduced. The invention as claimed therefore has advantages associated with elements not suggested by the prior art and is consequently sufficiently distinguished from that prior art to satisfy the conditions for patenting in the United States. The dependent claims inherit the limitations of the base claim and are therefore similarly distinguished from the prior art of record for the reasons given. Review and acceptance as well as passage to issuance is therefore requested.

No new matter has been added in this amendment.

13

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Enclosures:

Replacement Figs. 1 and 2 and new figures 3 through 5

Respectfully submitted,

Paul Vincent

Dr. Paul Vincent

Registration number 37,461

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Date

Dreiss, Fuhlendorf, Steimle & Becker

Patentanwälte

Postfach 10 37 62

D-70032 Stuttgart, Germany

Telephone +49-711-24 89 38-0

Fax +49-711-24 89 38-99